

IN THE CLAIMS:

1. (Currently amended) An instrument system for reducing displacement between adjacent bony structures, comprising:

an inserter engageable to a connecting element to percutaneously position the connecting element adjacent an anchor securable to at least one of the adjacent bony structures; and

at least one anchor extension mountable to the anchor and extending along a longitudinal axis, wherein said anchor is manipulatable percutaneously with said at least one anchor extension to position said anchor for engagement with said connecting element, said at least one anchor extension including a first member and a second member, said second member being mountable to said anchor, and said first member and said second member being structured and configured to be axially movable relative to one another to contact said connecting element with said first member and move said anchor and said connecting element toward one another while said second member is mounted to said anchor.

2. (Original) The instrument system of claim 1, further comprising a second anchor extension mountable with a second anchor securable to the other of the adjacent bony structures, wherein said second anchor is manipulatable percutaneously with said second anchor extension to position said second anchor for engagement with said connecting element.

3. (Original) The instrument system of claim 2, wherein said inserter is movably mountable to said at least one of said anchor extension to move said connecting element along an insertion axis to a position adjacent said anchors.

4. (Original) The instrument system of claim 3, wherein said connecting element is moved in a direction transverse to said insertion axis with said first member of said at least one anchor extension as said connecting element and said anchor are moved toward one another.

5. (Original) The instrument system of claim 2, wherein during use said connecting element is engageable to said second anchor before said connecting element is moved toward said anchor with said first member of said at least one anchor extension.

6. (Original) The instrument system of claim 2, wherein said connecting element includes a length adapted to extend between said first and second anchors.

7. (Original) The instrument system of claim 1, wherein said second member includes a pair of jaws movable relative to one another to releasably engage said anchor therebetween.

8. (Original) The instrument system of claim 7, wherein each of said jaws includes a protrusion extending therefrom toward the other of said pair jaws, said protrusions being received in aligned receptacles of said anchor when said second member is mounted thereto.

9. (Original) The instrument system of claim 7, wherein said first member is coupled to said pair of jaws, said pair of jaws moving between an open position and a closed position in correspondence with a relative positioning between said first member and said second member.

10. (Original) The instrument system of claim 1, wherein said first member is an outer sleeve with a passage and said second member is movably mounted in said passage of said first member.

11. (Original) The instrument system of claim 10, wherein said first member includes a proximal housing portion, and further comprising a drive member rotatably received in said housing portion in engagement with said second member, said drive member being operable to move said first and second members relative to one another.

Response to First Office Action
Serial No. 10/769,569
Atty. Docket No. 4002-3305/PC902.00
Page 3 of 23

12. (Original) The instrument system of claim 10, wherein said anchor extension includes a locking mechanism to releasably secure said first and second members in position relative to one another.

13. (Original) The instrument system of claim 12, wherein said first member is engaged with said second member to manipulate a distal portion of said second member between an open configuration to receive the anchor and a mounting configuration to mount the anchor thereto as said second member is displaced proximally relative said first member.

14. (Original) The instrument system of claim 13, wherein said locking mechanism includes a lock button pivotally mounted to said first member, said lock button being movable to a first orientation relative to said first member and into engagement with said second member to provide an indication that said second member is in said mounting configuration.

15. (Original) The instrument system of claim 14, wherein from said mounting configuration said lock button is movable out of said first orientation as said second member is proximally displaced relative to said first member.

16. (Original) The instrument system of claim 15, wherein lock button returns to said first orientation when said second member is proximally displaced to a complete reduction configuration relative to said first member.

17. (Original) The instrument system of claim 16, wherein said lock button include a lock member projecting therefrom and engageable in a proximal notch in said second member when in said mounting configuration and engageable in a distal notch in said second member when in said complete reduction configuration.

18. (Original) The instrument system of claim 16, wherein said lock button is biased toward said first orientation.

Response to First Office Action
Serial No. 10/769,569
Atty. Docket No. 4002-3305/PC902.00
Page 4 of 23

Best Available Copy

19. (Original) The instrument system of claim 1, wherein said connecting element includes a proximal portion, a distal portion, and a flexible intermediate portion therebetween.

20. (Original) The instrument system of claim 1, wherein said anchor is a multi-axial screw with a screw portion and a yoke pivotally mounted to said screw portion, said second member being mountable to said yoke.

Claims 21-49 (Cancelled)

50. (Currently amended) An instrument system for stabilizing adjacent vertebrae, comprising:

an inserter engageable to a connecting element; and

at least one anchor extension mountable with an anchor secured to a vertebra, wherein said inserter is movably mountable to said at least one anchor extension to move said connecting element along an insertion axis to a position adjacent said anchor, wherein said at least one anchor extension includes a first body and a second body coupled to said anchor, said first and second bodies forming a passage therebetween adapted to receive said connecting element therethrough along the insertion axis at a location spaced proximally from a proximal end of said anchor, wherein said anchor extension extends along a longitudinal axis and includes a first elongated sleeve and a second elongated sleeve, said first and second bodies being coupled to said second sleeve and said first sleeve extends about said second sleeve and is axially movable along said second sleeve with said first and second bodies located distally of said first sleeve and said passage being formed between said proximal end of said anchor and said first sleeve.

Claim 51 (Cancelled)

52. (Original) The system of claim 50, wherein said first and second bodies each include an anchor coupler at a distal end thereof, said first and second bodies being movable toward and away

Response to First Office Action
Serial No. 10/769,569
Atty. Docket No. 4002-3305/PC902.00
Page 5 of 23

from one another to selectively grip and release said proximal end of said anchor between said anchor couplers.

53. (Currently amended) The system of claim 50, wherein said bodies are structured to form an enlarged passage portion therebetween along said passage that is enlarged relative to said passage at a location along said insertion axis.

54. (Original) The system of claim 53, wherein said connecting element includes a proximal portion, a distal portion, and an enlarged intermediate portion extending therebetween.

55. (Original) The system of claim 54, wherein said enlarged passage portion is sized to receive said enlarged intermediate portion therethrough, and said proximal and distal portions are positionable in said passage between said proximal end of said anchor and said enlarged passage portion.

56. (Original) The system of claim 53, wherein said enlarged passage portion is formed by concavely curved surfaces of said first and second bodies, said concavely curved surfaces being oriented toward one another.

57. (Original) The instrument system of claim 50, further comprising a second anchor extension mountable to a second anchor secured to a second vertebra, said inserter being movably mountable with said second anchor extension.

58. (Original) The instrument system of claim 57, wherein said connecting element includes a length adapted to extend between said first and second anchors.

Claims 59-90 (Cancelled)

Response to First Office Action
Serial No. 10/769,569
Atty. Docket No. 4002-3305/PC902.00
Page 6 of 23

91. (Currently amended) An instrument system for reducing displacement between adjacent vertebrae, comprising:

an inserter engageable to a connecting element; and

at least one anchor extension extending along a longitudinal axis and mountable with an anchor secured to a vertebra, wherein said inserter is movably mountable to said at least one anchor extension to move said connecting element along an insertion axis to a position adjacent said anchor, wherein said at least one anchor extension includes a first member and a second member each extending along said longitudinal axis, said second member being mountable to said anchor and said first member and said second member being movable relative to one another along said longitudinal axis to contact said connecting element with said first member and move said anchor and said connecting element toward one another in a direction transverse to said insertion axis.

92. (Original) The instrument system of claim 91, further comprising a second anchor extension mountable to a second anchor secured to a second vertebra, said inserter being movably mountable with said second anchor extension.

93. (Original) The instrument system of claim 91, wherein said connecting element includes a length adapted to extend between said first and second anchors.

94. (Original) The instrument system of claim 93, wherein said connecting element is secured to said second anchor before moving said anchor and said connecting element toward one another with said second member.

95. (Original) The instrument system of claim 91, wherein said insertion axis is curved about a radius along a percutaneous insert path.

96. (Original) The instrument system of claim 91, wherein said first member is an outer sleeve with a passage and said second member is movably mounted in said passage of said first member.

97. (Original) The instrument system of claim 91, wherein said first member includes a proximal housing portion, and further comprising a drive member rotatably received in said housing portion in engagement with said second member, said drive member being operable to move said first and second members relative to one another.

98. (Original) The instrument system of claim 96, wherein said anchor extension includes a locking mechanism to releasably secure said first and second members in position relative to one another.

99. (Original) The instrument system of claim 98, wherein said first member is engaged with said second member to manipulate a distal portion of said second member between an open configuration to receive the anchor and a mounting configuration to mount the anchor thereto as said second member is displaced proximally relative said first member.

100. (Original) The instrument system of claim 99, wherein said locking mechanism includes a lock button pivotally mounted to said first member, said lock button being movable to a first orientation relative to said first member and into engagement with said second member to provide an indication that said second member is in said mounting configuration.

101. (Original) The instrument system of claim 100, wherein from said mounting configuration said lock button is movable out of said first orientation as said second member is proximally displaced relative to said first member.

Response to First Office Action
Serial No. 10/769,569
Atty. Docket No. 4002-3305/PC902.00
Page 8 of 23

102. (Original) The instrument system of claim 101, wherein lock button returns to said first orientation when said second member is proximally displaced to a complete reduction configuration relative to said first member.

103. (Original) The instrument system of claim 102, wherein said lock button include a lock member projecting therefrom and engageable in a proximal notch in said second member when in said mounting configuration and engageable in a distal notch in said second member when in said complete reduction configuration.

104. (Original) The instrument system of claim 102, wherein said lock button is biased toward said first orientation.

105. (Original) The instrument system of claim 91, wherein said connecting element includes a proximal portion, a distal portion, and a flexible intermediate portion therebetween.

106. (New) An instrument system for reducing displacement between adjacent bony structures, comprising:

an inserter engageable to a connecting element to percutaneously position the connecting element adjacent an anchor securable to at least one of the adjacent bony structures; and

at least one anchor extension mountable to the anchor, wherein said anchor is manipulatable percutaneously with said at least one anchor extension to position said anchor for engagement with said connecting element, said at least one anchor extension including a first member and a second member, said second member including a pair of jaws mountable to said anchor with said anchor between said pair of jaws, and said first member and said second member being movable relative to one another to contact said connecting element with said first member and move said anchor and said connecting element toward one another, wherein each of said jaws includes a protrusion extending therefrom toward the other of said pair jaws, said protrusions being received in aligned receptacles of said anchor when said second member is mounted thereto.

107. (New) The instrument system of claim 106, wherein said first member is coupled to said pair of jaws, said pair of jaws moving between an open position and a closed position in correspondence with a relative positioning between said first member and said second member.

108. (New) The instrument system of claim 106, wherein said first member is an outer sleeve with a passage and said second member is movably mounted in said passage of said first member.

109. (New) The instrument system of claim 108, wherein said first member includes a proximal housing portion, and further comprising a drive member rotatably received in said housing portion in engagement with said second member, said drive member being operable to move said first and second members relative to one another.

110. (New) The instrument system of claim 108, wherein said anchor extension includes a locking mechanism to releasably secure said first and second members in position relative to one another.

111. (New) The instrument system of claim 110, wherein said first member is engaged with said second member to manipulate a distal portion of said second member between an open configuration to receive the anchor and a mounting configuration to mount the anchor thereto as said second member is displaced proximally relative said first member.

112. (New) The instrument system of claim 111, wherein said locking mechanism includes a lock button pivotally mounted to said first member, said lock button being movable to a first orientation relative to said first member and into engagement with said second member to provide an indication that said second member is in said mounting configuration.

Response to First Office Action
Serial No. 10/769,569
Atty. Docket No. 4002-3305/PC902.00
Page 10 of 23

113. (New) The instrument system of claim 112, wherein from said mounting configuration said lock button is movable out of said first orientation as said second member is proximally displaced relative to said first member.

114. (New) The instrument system of claim 113, wherein said lock button returns to said first orientation when said second member is proximally displaced to a complete reduction configuration relative to said first member.

115. (New) The instrument system of claim 114, wherein said lock button include a lock member projecting therefrom and engageable in a proximal notch in said second member when in said mounting configuration and engageable in a distal notch in said second member when in said complete reduction configuration.

116. (New) The instrument system of claim 114, wherein said lock button is biased toward said first orientation.

120. (New) The instrument system of claim 106, wherein said connecting element includes a proximal portion, a distal portion, and a flexible intermediate portion therebetween.

121. (New) The instrument system of claim 106, wherein said anchor is a multi-axial screw with a screw portion and a yoke pivotally mounted to said screw portion, said second member being mountable to said yoke.

122. (New) The instrument system of claim 106, further comprising a second anchor extension mountable to a second anchor secured to a second vertebra, said inserter being movably mountable with said second anchor extension.

123. (New) The instrument system of claim 106, wherein said connecting element includes a length adapted to extend between said first and second anchors.

Response to First Office Action
Serial No. 10/769,569
Atty. Docket No. 4002-3305/PC902.00
Page 11 of 23

124. (New) The instrument system of claim 106, wherein said insertion axis is curved about a radius along an insertion path.

125. (New) An instrument system for reducing displacement between adjacent vertebrae, comprising:

an inserter engageable to a connecting element; and

at least one anchor extension mountable with an anchor secured to a vertebra, wherein said inserter is movably mountable to said at least one anchor extension to move said connecting element along an insertion axis to a position adjacent said anchor, wherein said at least one anchor extension includes a first member and a second member, said second member being mountable to said anchor and said first member and said second member being movable relative to one another to contact said connecting element with said first member and move said anchor and said connecting element toward one another in a direction transverse to said insertion axis, wherein:

said first member is an outer sleeve with a passage and said second member is movably mounted in said passage of said first member and said first member is engaged with said second member to manipulate a distal portion of said second member between an open configuration to receive the anchor and a mounting configuration to mount the anchor thereto as said second member is displaced proximally relative said first member; and

said anchor extension includes a locking mechanism to releasably secure said first and second members in position relative to one another, said locking mechanism including a lock button pivotally mounted to said first member, said lock button being movable to a first orientation relative to said first member and into engagement with said second member to provide an indication that said second member is in said mounting configuration, and said lock button further being movable out of said first orientation as said second member is proximally displaced relative to said first member.

126. (New) The instrument system of claim 125, wherein said lock button returns to said first orientation when said second member is proximally displaced to a complete reduction configuration relative to said first member.

127. (New) The instrument system of claim 126, wherein said lock button include a lock member projecting therefrom and engageable in a proximal notch in said second member when in said mounting configuration and engageable in a distal notch in said second member when in said complete reduction configuration.

128. (New) The instrument system of claim 126, wherein said lock button is biased toward said first orientation.

129. (New) The instrument system of claim 125, wherein said first member includes a proximal housing portion, and further comprising a drive member rotatably received in said housing portion in engagement with said second member, said drive member being operable to move said first and second members relative to one another.

130. (New) The instrument system of claim 125, wherein said connecting element includes a proximal portion, a distal portion, and a flexible intermediate portion therebetween.

131. (New) The instrument system of claim 125, further comprising a second anchor extension mountable to a second anchor secured to a second vertebra, said inserter being movably mountable with said second anchor extension.

132. (New) The instrument system of claim 125, wherein said connecting element includes a length adapted to extend between said first and second anchors.

133. (New) The instrument system of claim 132, wherein said connecting element is secured to said second anchor before moving said anchor and said connecting element toward one another with said second member.

134. (New) The instrument system of claim 125, wherein said insertion axis is curved about a radius along an insertion path.

Post Available Copy

Response to First Office Action
Serial No. 10/769,569
Atty. Docket No. 4002-3305/PC902.00
Page 14 of 23